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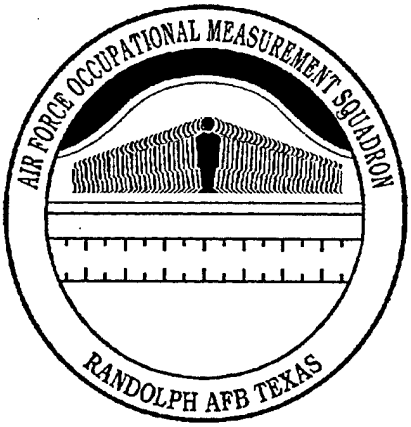

OCCUPATIONAL SURVEY REPORT

AVIONIC SENSORS MAINTENANCE

AFSC 2A1X1

AFPT 90-2A1-049

JUNE 1996

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
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PREFACE

This report presents the results of an Air Force occupational survey of the AFSC 2A1X1 Avionic Sensors Maintenance career ladder. Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Second Lieutenant Brandon K. Doan, Inventory Development Specialist, developed the survey instrument; Mrs. Joan St. John, Occupational Analyst, analyzed the data and wrote the final report. Mr. Wayne J. Fruge provided computer programming support, and Mr. Richard G. Ramos provided administrative support.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB Texas 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. *Survey Coverage*: The Avionic Sensors Maintenance (AFSC 2A1X1) career ladder was surveyed to obtain current job and task data for use in updating career ladder training documents and the technical school training program. Survey results are based on data collected from 654 AFSC 2A1X1 personnel. This represents 59 percent of the total assigned population.

2. *Specialty Jobs*: Structure analysis of the AFSC 2A1X1 data identified 11 independent jobs: Low Altitude Navigation and Targeting Infrared for Night Systems (LANTIRN) Maintenance, Sensor Maintenance, Video Systems Maintenance, Infrared (IR) Maintenance, Pave Tack Maintenance, Advanced Synthetic Aperature Radar Systems (ASARS) Maintenance, Infrared Acquisition Designation Systems (IRADS) Maintenance, Photo Systems Maintenance, Supervision, Supply and Administration, and Training. These jobs are discussed within this report.

3. *Career Ladder Progression*: Normal career ladder progression within the AFSC 2A1X1 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving LANTIRN Maintenance activities and IR Maintenance activities. At the 5-skill level, personnel are still involved in LANTIRN and IR activities, but begin to become involved with supervisory activities. Seven-skill level personnel reflect a greater shift toward supervisory and management work, although they are still involved with performing technical tasks. AFMAN 36-2108 *Specialty Description* provides a broad and generally accurate description of the technical and supervisory functions performed within the career ladder.

4. *Training* Analysis: First-enlistment members spend approximately 95 percent of their duty time devoted to technical and administrative or supply functions. The Specialty Training Standard (STS) is supported by survey data. Subject-matter experts, however, should carefully review the STS for possible fine-tuning of content and proficiency codes.

5. *Job Satisfaction Analysis*: In general, job satisfaction among AFSC 2A1X1 personnel is fairly high, with no serious satisfaction problems noted. Overall, personnel working in the ASARS Maintenance job had the lowest job satisfaction.

6. *Implications*: The AFSC 2A1X1 career ladder structure identified in this report is similar to that found in the 1990 Photo-Sensors Maintenance OSR. AFMAN 36-2108 *Specialty Description* accurately describes the jobs and tasks being performed. Job satisfaction is fairly high among career ladder incumbents. The STS provides comprehensive coverage of tasks performed by career ladder personnel across 11 jobs. Overall satisfaction was positive for the jobs identified.

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OCCUPATIONAL SURVEY REPORT (OSR)
AVIONIC SENSORS MAINTENANCE CAREER LADDER
(AFSC 2A1X1)

INTRODUCTION

This is a report of an occupational survey of the Avionic Sensors Maintenance career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was conducted to obtain current job and task data. Data collected through this OSR will be utilized by training development personnel to review courses and related training documents in light of equipment and utilization changes which have occurred since the last OSR in 1990.

Background

As described in the AFMAN 36-2108 *Specialty Description* for AFSC 2A1X1, dated 31 October 1994, members are responsible for maintaining, repairing, inspecting and supervising maintenance actions on Avionic Sensor systems equipment such as infrared detector sets, closed circuit and low level television, optical cameras, data display sets, infrared map and digital recorders, laser target designator, laser receivers, terrain following radar, sensor control systems, and associated support equipment.

Initial 3-skill level training for AFSC 2A1X1 personnel is currently provided through a 126-day course (J3ABR2A131 000) at Sheppard AFB TX. This course includes Electronic Principles, sensor safety, Air Force technical publications and forms, maintenance management and maintenance inspection systems and forms, general maintenance practices, test equipment, principles of sensor systems, description of sensor systems, off-equipment maintenance of infrared mapping, cockpit television, airborne video recorders, and associated aerospace ground equipment (AGE). Entry into the career ladder currently requires Armed Forces Vocational Aptitude Battery minimum score of 72 Electronic, and strength factor of G (40 lbs).

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-2A1-049, dated July 1994. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications, directives, and the previous JI and OSR. This task list was further refined and validated through personal interviews with 40 subject-matter experts (SMEs) representing a variety of major commands (MAJCOMs) at the following locations:

BASE	UNIT VISITED
Lowry AFB CO	3450 TTS
Hurlburt Fld FL	16 CRS
Eglin AFB FL	33 MS
Moody AFB GA	347 MS
Cannon AFB NM	27 CRS
Holloman AFB NM	49 MS
Beale AFB NM	9 MS
Randolph AFB TX	Specialty Knowledge Test (SKT) Team, AFOMS/OMDR

The resulting JI contained a comprehensive listing of 619 tasks grouped under 17 duty headings with a background section requesting such information as grade, MAJCOM, job title, time in present job, time in service, job satisfaction, functional area, organizational level, work schedule, type of aircraft on which sensors are maintained, type of inspections performed, video system test sets operated or maintained, video systems operated or maintained, camera systems operated or maintained, camera systems test sets operated or maintained, reconnaissance electronic sensor system test sets operated or maintained, tactical/real-time display electronic sensor systems operated or maintained, tactical/real-time display electronic sensor system test sets operated or maintained, support equipment operated or maintained, test equipment operated or maintained and forms used.

Survey Administration

Base training offices at operational bases worldwide administered the inventory to 1,104 DAFSC 2A1X1 personnel holding a 3-, 5-, or 7-skill level. Personnel excluded from taking the survey comprised the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Members of the Air National Guard were also surveyed. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, respondents then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job. First, the ratings are summed. Each task rating is then divided by the sum of task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 2A1X1 survey sample includes responses from 654 Active Duty and Air National Guard job incumbents. Table 1 reflects the distribution, by MAJCOM, of assigned AFSC 2A1X1 personnel as of April 1994. The 654 respondents in the final sample represent 59 percent of all assigned AFSC 2A1X1 personnel. Table 2 reflects the distribution by paygrade. These figures show the sample is representative of the total enlisted population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 2A1X1 personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

TABLE 1

MAJCOM REPRESENTATION OF ACTIVE DUTY IN SAMPLE

COMMAND	PERCENT OF ACTIVE DUTY ASSIGNED	PERCENT OF ACTIVE DUTY SAMPLE
ACC	51	48
AFSOC	16	17
AETC	10	12
PACAF	9	8
USAFE	8	8
AFMC	5	6
OTHER	1	1

Total Active Duty Assigned:	1,083
Total ANG Assigned:	237
Total Assigned:	1,320
Total Active Duty Eligible:	977
Total ANG Eligible:	231
Total Eligible:	1,228
Total Active Duty In Sample:	569
Total ANG In Sample:	85
Total Sample:	654
Percent of Active Eligible in Sample:	66%
Percent of Surveyed in Sample:	59%

* As of April 1994

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	42	43
E-4	29	29
E-5	17	17
E-6	11	10
E-7	**	**

* As of December 1993
** Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

Training Emphasis (TE). TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 41 senior AFSC NCOs who completed a TE booklet were asked to select tasks they felt require some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided by resident technical schools, field training detachments, mobile training teams, formal on-the-job training (OJT), or any other organized training method. There was acceptable agreement among the 41 raters. The average TE rating was 2.14, with a standard deviation of 2.38. Any task with a TE rating of 4.52 or above is considered to have high TE.

Task Difficulty (TD). TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 44 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (extremely low to extremely high). Interrater reliability was acceptable. Ratings were standardized so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Avionic Sensors Maintenance career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a *Job*. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated program locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the program adds new members to the initial group or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a *Cluster*. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), AFMAN 36-2108 *Specialty Description*, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, 11 jobs were identified within the AFSC 2A1X1 survey sample. A listing of these jobs is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

I. LOW ALTITUDE NAVIGATION AND TARGETING INFRARED FOR NIGHT SYSTEMS (LANTIRN) MAINTENANCE (STG102, N=172)

II. SENSOR MAINTENANCE (STG069, N=33)

III. VIDEO SYSTEMS MAINTENANCE (STG074, N=116)

IV. INFRARED (IR) MAINTENANCE (STG066, N=92)

V. PAVE TACK MAINTENANCE (STG068, N=39)

VI. ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS (ASARS) MAINTENANCE (STG135, N=11)

VII. INFRARED ACQUISITION DESIGNATION SYSTEMS (IRADS) MAINTENANCE (STG159, N=12)

VIII. PHOTO SYSTEMS MAINTENANCE (STG096, N=13)

IX. SUPERVISION (STG067, N=68)

X. SUPPLY AND ADMINISTRATION (STG077, N=9)

XI. TRAINING (STG046, N=10)

AFSC 2A1X1
CAREER LADDER JOBS

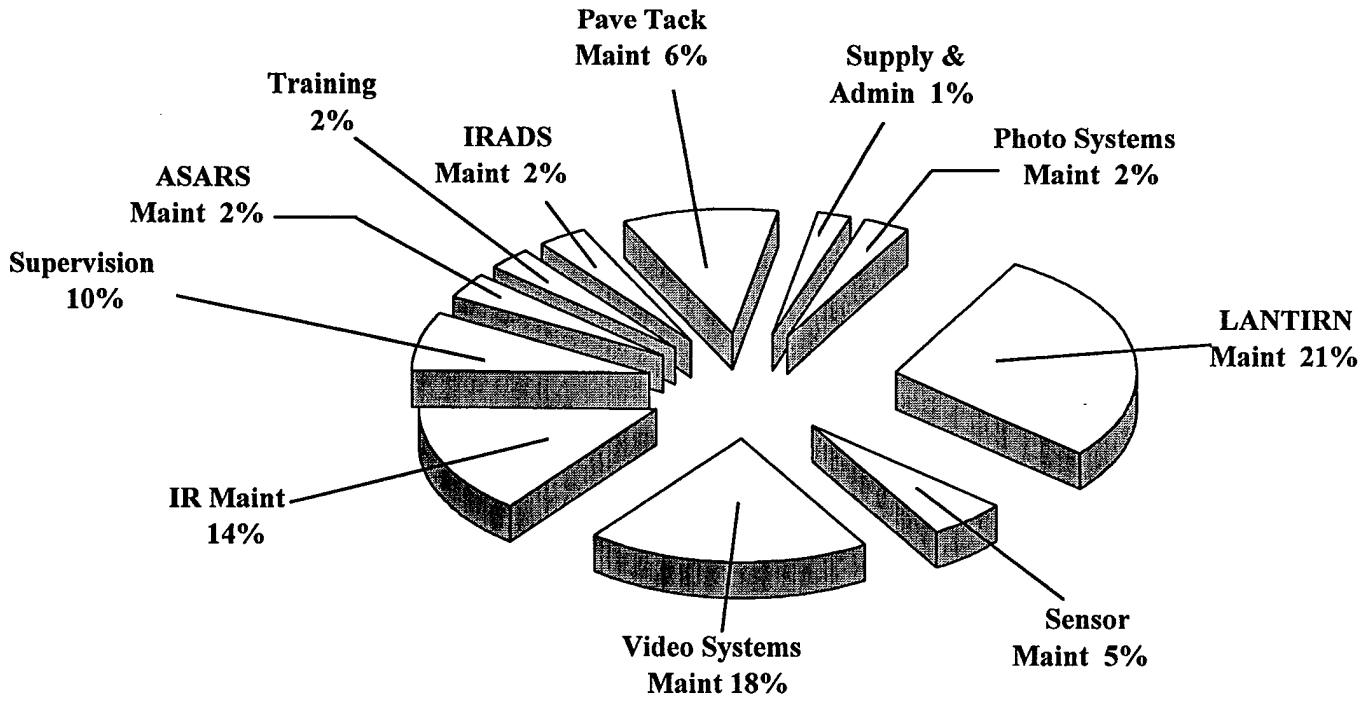


FIGURE 1

The respondents forming these groups account for 88 percent of the survey sample. The remaining 12 percent are performing tasks or a series of tasks that do not group with any of the defined jobs. Examples of job titles for these people include: Job Controller, Hazardous Material Manager, Element Member, Gold Flag Program Manager, Logistics Computer Manager, Research Analyst, Circuit Card Technician, and Local Checklist Manager.

Group Descriptions

The following paragraphs contain brief descriptions of the 11 jobs identified through the career ladder structure analysis. Also presented are two tables that reflect the time incumbents spend on duties and selected background data for each group. Table 3 presents the relative time spent by respondents in each job across each duty listed in the JI. Table 4 displays selected background information, such as DAFSC distributions across each group, average of total months in active military service (i.e., Total Active Federal Military Service (TAFMS)), and average number of tasks performed. Appendix A at the back of this OSR lists representative tasks performed by members of each group.

I. LOW ALTITUDE NAVIGATION AND TARGETING INFRARED FOR NIGHT SYSTEMS (LANTIRN) MAINTENANCE (STG102, N=172). This job primarily involves maintenance of LANTIRN. LANTIRN maintenance personnel have the broadest maintenance job in the career ladder, as they perform an average of 159 tasks. This job is performed by the largest number of personnel. Of the 172 personnel in this job, 3 are in Guard units. This job is distinguished by the amount of time members spend performing LANTIRN activities (44 percent of their relative job time, see Table 3). Representative tasks for this job include:

remove or install targeting set CEUs
remove or install LANTIRN ECUs
perform functional tests on targeting sets
remove or install nose equipment support assemblies (NESAS)
perform targeting set focus adjustments
remove or install targeting set roll section assemblies
perform target acquisition forward looking (FLIR) to deroll alignments
remove or install navigation or targeting set computers
perform functional tests on navigation or targeting set environmental control units (ECUs)
perform targeting set drift and deroll biases
perform navigation or targeting set dead-channel strap alignments
perform targeting set FLIR line of site (LOS) to pitch axis alignments

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 2A1X1 JOB GROUPS

DUTIES		LANTIRN MAINT (STG102)	SENSOR MAINT (STG069)	VIDEO SYS MAINT (STG074)	IR MAINT (STG066)	PAVE TACK MAINT (STG068)	ASARS MAINT (STG135)
A	ORGANIZING & PLANNING	2	3	5	4	3	5
B	DIRECTING & IMPLEMENTING	2	2	4	4	3	5
C	EVALUATING & INSPECTING	2	3	4	4	3	4
D	TRAINING	2	3	3	3	0	4
E	PERFORMING GENERAL ADMINISTRATIVE & SUPPLY ACTIVITIES	6	6	9	8	5	10
F	PERFORMING GENERAL MAINTENANCE ON SENSOR SYSTEMS	23	54	31	35	34	30
G	MAINTAINING LOW ALTITUDE NAVIGATION & TARGETING INFRARED FOR NIGHT (LANTIRN) SYSTEMS	44	0	2	*	1	0
H	MAINTAINING PAVE TACK AN/AVQ-26 SYSTEMS	*	3	0	1	29	0
I	MAINTAINING INFRARED (IR) SYSTEMS	*	5	*	18	1	0
J	MAINTAINING LOW LIGHT LEVEL TELEVISION SYSTEMS & NIGHT VISION DEVICES	*	0	0	6	0	0
K	MAINTAINING VIDEO RECORDING & COCKPIT TELEVISION SYSTEMS	6	4	22	2	4	0
L	MAINTAINING PAVE PENNY AN/AAS-35 SYSTEMS	1	0	7	0	0	0
M	MAINTAINING INFRARED ACQUISITION DESIGNATION SYSTEMS	0	*	1	0	0	0
N	MAINTAINING ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS	0	0	0	0	0	28
O	MAINTAINING CAMERA SYSTEMS	0	3	*	*	1	0
P	PERFORMING CROSS UTILIIZATION TRAINING (CUT) TASKS	*	3	1	2	1	1
Q	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	11	10	12	14	13	14

* Denotes Less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 2A1X1 JOB GROUPS

DUTIES	IRADS MAINT (STG159)	PHOTO SYS MAINT (STG096)	SUPV (STG067)	SUPPLY & ADMIN (STG077)	TRAINING (STG046)
A ORGANIZING & PLANNING	3	7	18	19	8
B DIRECTING & IMPLEMENTING	3	4	14	8	5
C EVALUATING & INSPECTING	2	5	16	15	6
D TRAINING	3	3	10	7	34
E PERFORMING GENERAL ADMIN & SUPPLY ACTIVITIES	4	9	18	38	12
F PERFORMING GENERAL MAINTENANCE ON SENSOR SYSTEMS	40	29	7	8	20
G MAINTAINING LOW ALTITUDE NAVIGATION & TARGETING INFRARED FOR NIGHT (LANTIRN) SYSTEMS	0	0	1	1	4
H MAINTAINING PAVE TACK AN/AVQ-26 SYSTEMS	0	0	1	0	5
I MAINTAINING INFRARED (IR) SYSTEMS	5	0	1	0	*
J MAINTAINING LOW LIGHT LEVEL TELEVISION SYSTEMS & NIGHT VISION DEVICES	0	0	*	0	0
K MAINTAINING VIDEO RECORDING & COCKPIT TELEVISION SYSTEMS	5	0	1	1	4
L MAINTAINING PAVE PENNY AN/AAS-35 SYSTEMS	0	0	*	0	0
M MAINTAINING INFRARED ACQUISITION DESIGNATION SYSTEMS	24	0	*	0	0
N MAINTAINING ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS	0	*	0	0	0
O MAINTAINING CAMERA SYSTEMS	0	29	*	0	0
P PERFORMING CROSS UTILIZATION TRAINING (CUT) TASKS	*	*	*	0	0
Q PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	11	14	13	4	1

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 2A1X1 CAREER LADDER JOBS

	LANTIRN MAINT (STG102)	SENSOR MAINT (STG069)	VIDEO SYSTEMS MAINT (STG074)	IR MAINT (STG066)	PAVE TACK MAINT (STG068)	ASARS MAINT (STG135)
NUMBER IN GROUP	172	33	116	92	39	11
PERCENT OF SAMPLE	26%	5%	18%	14%	6%	2%
PERCENT IN CONUS	75%	37%	78%	76%	100%	100%
DAFSC DISTRIBUTION:						
2A131	29%	9%	9%	25%	18%	18%
2A151	53%	52%	52%	45%	67%	64%
2A171	18%	39%	39%	30%	15%	18%
PREDOMINANT PAYGRADE(S)	E-4	E-4/5	E-5	E-3/4/5	E-4	E3/4/5
AVERAGE MONTHS IN SERVICE (TAFMS)	82	100	112	92	75	89
PERCENT IN FIRST ENLISTMENT	42%	27%	21%	31%	44%	36%
AVERAGE # OF TASKS PERFORMED	159	63	129	128	107	119
PERCENT SUPERVISING	41%	39%	49%	39%	33%	45%

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 2A1X1 CAREER LADDER JOBS

	IRADS MAINT (STG159)	PHOTO SYS MAINT (STG096)	SUPV (STG067)	SUPPLY & ADMIN (STG077)	TRAINING (STG046)
NUMBER IN GROUP	12	13	68	9	10
PERCENT OF SAMPLE	2%	2%	10%	1%	2%
PERCENT IN CONUS	100%	100%	82%	67%	100%
DAFSC DISTRIBUTION:					
2A131	33%	15%	1%	0%	0%
2A151	50%	46%	1%	22%	80%
2A171	17%	38%	97%	78%	20%
PREDOMINANT PAYGRADE(S)	E-4/5	E-4/5	E-6/7	E-5/6/7	E-4/5
AVERAGE MONTHS IN SERVICE (TAFMS)	87	98	190	180	101
PERCENT IN FIRST ENLISTMENT	33%	23%	1%	0%	0%
AVERAGE # OF TASKS PERFORMED	81	112	128	69	47
PERCENT SUPERVISING	42%	54%	96%	44%	0%

Fifty-three percent of those holding this job have a 5-skill level and average 82 months TAFMS. The forty-two percent that are in their first enlistment suggests that the LANTIRN job also has some experienced members performing this job. Seventy-five percent are assigned to the CONUS. The predominant paygrades are E-3 through E-5.

II. SENSOR MAINTENANCE (STG069, N=33). Five percent of the total sample indicate they maintain sensor systems. Because personnel average nearly two-thirds fewer tasks (63), than the previous job, this job is more limited. Fifty-four percent of their job time involves performing maintenance on sensor systems. Unlike the first job, 11 of the job incumbents are in the Air National Guard. Examples of tasks most commonly performed include:

read or interpret schematics
operate aerospace ground equipment (AGE)
read or interpret wiring diagrams
remove or replace line replacement units (LRUs)
remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers
connect or disconnect power to aircraft
remove or replace cockpit control panels
perform continuity checks

Personnel in this job average 100 months TAFMS, with 27 percent in their first enlistment. Fifty-two percent hold the 5-skill level. Seventy-three percent are in the CONUS. The predominant paygrades are E-4 and E-5.

III. VIDEO SYSTEMS MAINTENANCE (STG074, N=116). The primary function of this job is that of maintaining video recordings and cockpit television systems. Of the 116 members in this group, 41 are in the Air National Guard. This job is distinguished from the other jobs by the time members spend in Duty K, Maintaining Video Recordings and Cockpit Television Systems (22 percent, see Table 3). This is a somewhat broad job as the AFSC 2A1X1 personnel with it perform an average of 129 tasks, including the following:

bench check AVTRs
clean and demagnetize video recording systems
perform soldering
evaluate videotape for system malfunctions
operationally check AVTRs
clear or close out completed maintenance discrepancies in CAMS
read or interpret schematics

remove or replace circuit card assemblies
access core automated maintenance systems (CAMS) menus and data screens

The majority of personnel with this job hold the 5-skill level, average 112 months TAFMS and are in paygrades E-3 through E-7. Seventy-eight percent are in the CONUS.

IV. INFRARED (IR) MAINTENANCE (STG066, N=92). Incumbents perform an average of 128 tasks, with 18 percent of their time spent in Duty I, Maintaining Infrared (IR) Systems. Of the 92 respondents, 4 are in the Air National Guard. Members with this job are distinguished by the time they spend on the following tasks:

remove or replace line replacement units (LRUs)
perform soldering
remove or replace circuit card assemblies
read or interpret schematics
clean optics or windows
perform corrosion control
troubleshoot or repair IR receivers
connect or disconnect power to aircraft
remove or replace IR SRUs
debrief aircrews
align or adjust electronic components on circuit cards
perform IR gains and balances

Respondents holding this job are moderately experienced, averaging slightly more than 8 years time in service. Forty-five percent hold the 5-skill level. The majority are in paygrades E-3 through E-6 and 31 percent are in their first enlistment.

V. PAVE TACK MAINTENANCE (STG068, N=39). This job is performed by 6 percent of the survey sample. All respondents report being on Active Duty. They perform an average of 107 tasks, and are distinguished by the time they spend maintaining Pave Tack AN/AVQ-26 Systems (35 percent). Members in this job bench check, repair, or adjust Pave Tack pitch instrument assemblies (PPIAS) and roll instrument assemblies (RIAS), remove or replace Pave Tack SRUs and operationally check Pave Tack Systems. Typical tasks performed by members with this job include:

clean optics or windows
bench check, repair, or adjust Pave Tack pitch instrument assemblies (PPIAS)
remove or replace Pave Tack SRUs
bench check, repair, or adjust Pave Tack Roll instrument assemblies (RIAS)
clear or close out completed maintenance discrepancies in CAMS
access core automated maintenance system (CAMS) menus and data screens
read or interpret wiring diagrams
operationally check Pave Tack systems
lubricate mechanical components
perform corrosion control
perform continuity checks
remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers

Respondents holding this job are moderately experienced averaging slightly more than 6 years time in service. Forty-four percent are in their first enlistment and 64 percent are in paygrade E-4. Sixty-seven percent hold the 5-skill level.

VI. ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS (ASARS) MAINTENANCE (STG135, N=11). This job primarily involves ASARS. Personnel all report being on Active Duty and perform an average of 119 tasks. They include bench checking, operating, and removing and replacing ASARS components. Incumbents spend 28 percent of their time on Duty N, Maintaining ASARS (see Table 3). Members with this job are distinguished by the time they spend on the following tasks:

remove or replace lower U-2 Q-bay hatches
perform ASARS prelaunch checks
operationally check ASARS
operate aerospace ground equipment
remove or replace ASARS noses
pressurize sensor systems
input data into CAMS
remove or replace ASARS PCU SRUs
bench check or repair ASARS processor control units (PCUs)
perform corrosion control
remove or replace ASARS DCRSs
clear or close out completed maintenance discrepancies in CAMS
remove or replace Airborne Radar System (ARS) fiber optics
remove or replace cockpit control panels

perform voltage checks
palletize sensor system equipment
don or doff protective clothing, such as aprons, goggles, or gloves

The majority of personnel hold the 5-skill level. One hundred percent are in the CONUS. Average time in service is 89 months, and 36 percent of the incumbents are in their first enlistment. The predominant paygrade is E-7.

VII. INFRARED ACQUISITION DESIGNATION SYSTEMS (IRADS) MAINTENANCE (STG159, N=12). Personnel with this job spend 24 percent of their time performing Duty M, Maintaining Infrared Acquisition Designation Systems (see Table 3). All report being on Active Duty and perform an average of 81 tasks. They include assembling and disassembling IRADS components, performing performance tests, and removing and replacing IRADS components. IRADS maintenance personnel are easily distinguished by the time they spend performing the following tasks:

assemble or disassemble Infrared Acquisition Designation System (IRADS) turrets
perform IRADS turret minimum performance tests
perform IRADS laser system alignments
perform fault isolation tests on IRADS turrets
perform IRADS turret drive and resolver alignments
assess Core Automated Maintenance System (CAMS) menus and data screens
perform IRADS VTSC minimum performance tests
perform IRADS VTSC fault isolation tests
remove or replace IRADS VTSC SRUs
perform IRADS Video Tracker Servo Control (VTSC) electrical alignments
clean optics or windows
clean bearings
align or adjust optics assembly fields-of-view

All members are assigned to the CONUS. Fifty percent of the members hold a 5-skill level and average 87 months TAFMS. Thirty-three percent of the incumbents are in their first enlistment, and the predominant paygrades are E-4 and E-5.

VIII. PHOTO SYSTEMS MAINTENANCE (STG096, N=13). This job is performed by 2 percent of the sample, who spend 29 percent of their duty time maintaining camera systems. As with the previous three jobs, all incumbents report being on Active Duty. They perform an

average of 112 tasks. Their responsibilities include performing preflight and postlight checks on cameras, bench checking camera systems, salvaging waste film, uploading and downloading cameras, and performing camera temperature stabilization. Members with this job are distinguished by the time they spend on the following tasks:

purge driftsights
bench check or repair T-35 camera systems
perform T-35 camera preflight or postflight checks
perform iris camera preflight or postflight checks with test and checkout consoles
bench check or repair iris camera systems
perform iris camera temperature stabilization
upload or download iris cameras
upload or download iris camera film
clear or close out completed maintenance discrepancies in CAMS
perform iris camera preflight or postflight checks with flyway kits
salvage waste film
perform soldering
perform F-489 camera preflight or postflight checks
clear or close out completed maintenance discrepancies in CAMS

Thirty-eight percent of the personnel in this job hold the 7-skill level. Twenty-three percent are in their first enlistment. The average time in service is 93 months and the average number of tasks performed is 112.

IX. SUPERVISION (STG067, N=68). This nontechnical job is distinguished because incumbents spend most of their time on supervisory and administrative duties. These include counseling, evaluating subordinates, assigning projects and determining work priorities. Personnel with this job spend 66 percent of their time performing these functions. Of the 68 members in this job, 2 are in the Air National Guard. AFSC 2A1X1 personnel with the supervision job are distinguished by the time they spend performing the following tasks:

determine or establish work priorities
assign projects, maintenance, or repair work
conduct performance feedback sessions
participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting
write EPRs
inspect personnel for compliance with military standards

counsel personnel on personal matters
interpret policies, directives, or procedures for subordinates
review messages

Respondents holding this job perform an average of 128 tasks. Ninety-seven percent hold the 7-skill level. Incumbents average 178 months TAFMS and only 1 percent are in their first enlistment.

X. SUPPLY AND ADMINISTRATION (STG077, N=9). This job is performed by the fewest respondents in the career ladder (only 1 percent of the respondents) and, like the previous job, is also a nontechnical job. Job responsibilities include such tasks as initiating electronic mail, determining logistics requirements, coordinating with appropriate agencies on supply matters and reviewing messages. These functions are shown by the following tasks members in this job spend most time performing:

participate in meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting
determine or establish logistics requirements, such as personnel, equipment, space, tools, or supplies
initiate electronic mail (E-Mail)
review messages
identify and report equipment or supply problems
coordinate supply matters with appropriate agencies
research supply requisition data, such as supply catalogs or master cross-reference listings (MCRLS)
maintain administrative files
coordinate obtaining TDY orders, passports, or visas with appropriate agencies
review drafts of regulations, manuals, or other directives
coordinate local purchases of equipment or supplies with appropriate agencies

Members perform an average of 69 tasks. Incumbents are in paygrades E-5 through E-8. None are in their first enlistment. Average time in services 178 months. Eighty percent hold the 5-skill level, with the three remaining holding the 7-skill level.

XI. TRAINING (STG046, N=10). Personnel in this job are all assigned to the school at Sheppard AFB TX and are responsible for providing formal training to career ladder incumbents. Respondents with this job are distinguished from other jobs because they spend 34

percent of their duty time performing training tasks. These include classroom teaching, developing tests, counseling trainees, and developing training aids. The following tasks distinguish this job from others in the career field:

counsel trainees on training progress
conduct resident course classroom training
evaluate progress of trainees
administer or score tests
construct or develop training materials or aids
write test questions
maintain training records, charts, graphs, or files

Personnel with the training job hold either the 5- or 7-skill level. They are in paygrades E-4 and E-5 and average 101 months TAFMS, and none are in their first enlistment. They perform an average of 47 tasks.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Avionic Sensors Maintenance OSR published in 1990. Although the job titles vary among the two studies, generally the tasks that personnel in these studies perform are the same. As shown in Table 5, six jobs in the current study were identified in the 1990 OSR. Of the remaining 5 jobs, 3 deal with new sensor systems. However, three jobs in the 1990 survey that were not identified as distinct jobs in the present survey. These are TISEO Maintenance, Pave Penny Maintenance, and Forward Looking Infrared Radar (FLIR) Maintenance.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as the CFETP, AFMAN 36-2108 *Specialty Description*, and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the 10 career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY VERSUS 1990 STUDY

1996 STUDY (N=654)	1990 STUDY (N=1065)
Supervision	Administrative and Supervisory
Supervision	Shop Supervision
Training	Resident Course Instructor
Supply and Administration	Administrative and Supervisory
Pave Tack Maintenance	In-Shop Pave Tack Maintenance
Pave Tack Maintenance	Flightline Pave Tack Maintenance
Video Systems Maintenance	Video Systems Maintenance
Photo Systems Maintenance	In Shop Tactical Camera Maintenance
Photo Systems Maintenance	Flightline Tactical Camera Maintenance
Photo Systems Maintenance	Strategic Camera Maintenance
LANTIRN Maintenance	Not Identified
Sensor Maintenance	Not Identified
IR Maintenance	Not Identified
ASARS Maintenance	Not Identified
IRADS Maintenance	Not Identified
Not Identified	Pave Penny Maintenance
Not Identified	TISEO Maintenance
Not Identified	Forward Looking Infrared Radar Maint

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS CAREER LADDER JOBS (PERCENT MEMBERS RESPONDING)

JOB		DAFSC 2A131 (N=108)	DAFSC 2A151 (N=296)	DAFSC 2A171 (N=250)
I.	LANTIRN Maintenance	46	31	12
II.	Sensor Maintenance	3	6	5
III.	Video Systems Maintenance	10	20	18
IV.	IR Maintenance	21	14	11
V.	Pave Tack Maintenance	7	9	2
VI.	ASARS Maintenance	2	2	1
VII.	IRADS Maintenance	4	2	1
VIII.	Photo Systems Maintenance	2	2	2
IX.	Supervision	1	*	26
X.	Supply and Administration	0	1	3
XI.	Training	0	3	1
XI.	Not Grouped	4	10	15

*Denotes less than 1 percent

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)

DUTIES		DAFSC 2A131 (N=108)	DAFSC 2A151 (N=296)	DAFSC 2A171 (N=250)
A	ORGANIZING AND PLANNING	1	3	12
B	DIRECTING AND IMPLEMENTING	1	3	9
C	EVALUATING AND INSPECTING	1	3	10
D	TRAINING	1	4	8
E	PERFORMING GENERAL ADMINISTRATIVE & SUPPLY ACTIVITIES	5	8	14
F	PERFORMING GENERAL MAINTENANCE ON SENSOR SYSTEMS	32	31	17
G	MAINTAINING LOW ALTITUDE NAVIGATION AND TARGETING INFRARED FOR NIGHT (LANTIRN) SYSTEMS	25	15	5
H	MAINTAINING PAVE TACK AN/AVQ-26 SYSTEMS	2	3	1
I	MAINTAINING INFRARED (IR) SYSTEMS	6	3	2
J	MAINTAINING LOW LIGHT LEVEL TV SYSTEMS & NIGHT VISION DEVICES	2	1	1
K	MAINTAINING VIDEO RECORDING & COCKPIT TV SYSTEMS	6	9	5
L	MAINTAINING PAVE PENNY AN/AAS-35 SYSTEMS	2	2	2
M	MAINTAINING INFRARED ACQUISITION DESIGNATION SYSTEMS	1	1	1
N	MAINTAINING ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS	1	1	*
O	MAINTAINING CAMERA SYSTEMS	1	1	1
P	PERFORMING CROSS UTILIZATION TRAINING (CUT) TASKS	1	1	1
Q	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	12	11	10

* Denotes less than 100 percent

A typical pattern of progression is noted within the AFSC 2A1X1 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time performing Avionic Sensors maintenance activities. As incumbents move up to the 7-skill level, higher percentages perform supervision functions, but they still spend some time on technical activities (see Tables 6 and 7).

Skill-Level Descriptions

DAFSC 2A131. The 108 airmen in the 3-skill level group, representing 17 percent of the survey sample, spend most of their job time on LANTIRN Maintenance and general maintenance of Sensor Systems activities (see Table 7). Forty-six percent are working in the LANTIRN Maintenance job (see Table 6). The focus of their job is shown by figures in Table 8, which lists representative tasks performed by 3-skill level incumbents. Most tasks listed relate to Duty F (Performing General Maintenance on Sensor Systems).

DAFSC 2A151. The 296 airmen in the 5-skill level group represent 45 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the LANTIRN Maintenance job (31 percent). Time on duties show a slight increase in time spent on supervisory duties (see Table 7).

Representative tasks performed by 5-skill level incumbents are listed in Table 9. Table 10 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts. Figures show the jobs are quite similar, except a higher percentage of 5-skill level personnel perform some supervisory tasks.

DAFSC 2A171. Seven-skill level personnel represent 38 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, a larger percentage of these 250 personnel perform supervisory duties (See Table 7). Twenty-six percent of 7-skill level personnel perform the Supervision job, while 12 percent are in the LANTIRN Maintenance job (See Table 6). Table 11 lists the most common tasks performed by 7-skill level personnel. Most of these tasks involve supervisory functions. Table 12 shows those tasks that best differentiate the 5- and 7-skill levels. As expected, the key difference is a greater emphasis on supervisory and administrative functions at the 7-skill level.

Summary

Progression in this career ladder follows a normal pattern of highly technical job focus at the lower skill levels with a broadening into supervision at the 7-skill level. Emphasis is seen in performing primarily LANTIRN Systems Maintenance activities at the 3- and 5-skill levels.

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A131 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N= 108)
F217	Perform soldering	92
Q593	Clear or close out completed maintenance discrepancies in CAMS	91
Q585	Access core automated maintenance system (CAMS) menus and data screens	90
F197	Clean optics or windows	90
F226	Remove or replace circuit card assemblies	86
F233	Remove or replace line of replacement units (LRUs)	85
F225	Remove or replace cable assemblies	84
F182	Align or adjust electronic components on circuit boards	83
F212	Perform corrosion control	81
Q605	Input data in CAMS	81
F211	Perform continuity checks	81
F200	Construct or repair cables or test plugs	80
F222	Read or interpret schematics	80
F218	Perform voltage checks	79
F239	Safety wire equipment	79
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	77
F220	Read or interpret block diagrams	77
F208	Pack or unpack sensor system equipment	77
F223	Read or interpret wiring diagrams	75
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	75
F213	Perform preventive maintenance inspections (PMIs)	71
Q596	Create equipment maintenance discrepancies in CAMS	69
F207	Operate aerospace ground equipment (AGE)	69
F242	Troubleshoot support equipment	69
F219	Pressurize sensor systems	68
F205	Lubricate mechanical components	65
F236	Remove or replace seals	65
F184	Align or adjust gimbals	64
E137	Inventory equipment, tools, or supplies	62
F181	Align or adjust collimators	60

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A151 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=296)
F217	Perform soldering	84
F233	Remove or replace line of replacement units (LRUs)	81
Q593	Clear or close out completed maintenance discrepancies in CAMS	81
F197	Clean optics or windows	80
Q585	Access core automated maintenance system (CAMS) menus and data screens	80
F222	Read or interpret schematics	78
F212	Perform corrosion control	78
F223	Read or interpret wiring diagrams	78
F226	Remove or replace circuit card assemblies	78
F211	Perform continuity checks	76
F225	Remove or replace cable assemblies	76
F182	Align or adjust electronic components on circuit cards	74
F218	Perform voltage checks	73
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	73
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	72
Q605	Input data in CAMS	72
F220	Read or interpret block diagrams	72
F207	Operate aerospace ground equipment	71
F200	Construct or repair cables or test plugs	70
F208	Pack or unpack sensor system equipment	68
F239	Safety wire equipment	67
F242	Troubleshoot support equipment	66

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2A131 AND DAFSC 2A151 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		2A1431 (N=108)	2A1451 (N=296)	DIFFERENCE
D92	Conduct OJT	10	53	-43
B51	Supervise Avionic Sensors Maintenance Apprentices (AFSC 2A131)	8	47	-39
D96	Counsel trainees on personal matters	3	34	-31
A2	Assign projects, maintenance, or repair work	9	38	-29
C72	Evaluate personnel for compliance with performance standards or technical orders	3	30	-27
B34	Counsel personnel on personal matters	3	30	-27
D107	Evaluate progress of trainees	2	29	-27
C82	Inspect personnel compliance with military standards	2	28	-26
C58	Conduct performance feedback sessions	2	28	-26
B52	Supervise Avionic Sensors Maintenance Craftsmen (AFSC 2A151)	2	28	-26
C86	Write EPRs	1	27	-26
A17	Establish performance standards for subordinates	3	25	-22
A8	Determine or establish work priorities	15	37	-22
D106	Evaluate personnel for training needs	2	23	-21

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY DAFSC 2A171 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N= 250)
A20	Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting	80
A8	Determine or establish work priorities	79
A2	Assign projects, maintenance, or repair work	77
Q585	Access core automated maintenance system (CAMS) menus and data screens	74
C58	Conduct performance feedbacks	72
B34	Counsel personnel on personal matters	70
B52	Supervise Avionic Sensors Maintenance Craftsmen (AFSC 2A151)	69
C86	Write EPRs	68
C82	Inspect personal for compliance with military standards	68
D92	Conduct OJT	68
F223	Read or interpret wiring diagrams	67
F222	Read or interpret schematics	67
Q593	Clear or close out completed maintenance discrepancies in CAMS	66
D107	Evaluate progress of trainees	66
D96	Counsel trainees on training progress	65
A23	Plan or schedule work assignments or priorities	64
Q586	Analyze CAMS data	64
C72	Evaluate personnel for compliance with performance standards or technical orders	63
Q605	Input data in CAMS	63
E137	Inventory equipment, tools, or supplies	62
B48	Interpret policies, directives or procedures for subordinates	62
E118	Compile information for records, reports, or logs	62
D109	Maintain training records, charts, graphs, or files	61
F226	Remove or replace circuit card assemblies	61
F218	Perform voltage checks	60
D106	Evaluate personnel for training needs	60
A17	Establish performance standards for subordinates	60
F233	Remove or replace line of replacement units (LRUs)	60

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 2A151 AND DAFSC 2A171 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		2A151 (N=296)	2A171 (N=250)	DIFFERENCE
F197	Clean optics or windows	80	53	27
F177	Adjust extend or retract components	51	27	24
F212	Perform corrosion control	78	54	24
K424	Align or adjust airborne videotape recorder (AVTR) drum speeds	48	25	23
A20	Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting	36	80	-44
A19	Establish work schedules	13	56	-43
A8	Determine or establish work priorities	37	79	-42
B53	Supervise Avionic Sensors Maintenance Journeymen (AFSC 2A171)	4	46	-45
A23	Plan or schedule work assignments or priorities	23	64	-41
C82	Inspect personnel for compliance with military standards	27	68	-41
B52	Supervise Avionic Sensors Maintenance Craftsmen (AFSC 2A151)	28	69	-41
C86	Write EPRs	27	68	-41
A6	Determine or establish logistics requirements,, such as personnel, equipment, space, tools, or supplies	14	54	-40
B34	Counsel personnel on personal matters	30	70	-40
A29	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	4	44	-40

ANALYSIS OF AFMAN 36-2108 *SPECIALTY DESCRIPTION*

Survey data were compared to the AFMAN 36-2108 *Specialty Description* for Avionic Sensors Maintenance, effective 31 October 1994. This specialty description is intended to provide a broad overview of the duties and responsibilities of each skill level. In general, the specialty description covers tasks and jobs performed by career ladder personnel.

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information that are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder, distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, and percentages of personnel maintaining specific equipment or systems, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder.

Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank ordering of those tasks considered important for first-enlistment airman training (TE), and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel. This decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help training personnel focus on tasks that are most appropriate for entry-level training, an additional factor, the Automated Training Indicator (ATI), was assigned to each task in the inventory. A computer program considered percent first-enlistment members performing, TE and TD ratings, and the Course Training Decision Logic Table found in AETCR 52-22, Atch 1, and assigned an ATI value to each task corresponding to the 18 training decisions on the table. The decision table and explanation of ATIs precede the listing of tasks in descending order of ATI in the TRAINING EXTRACT. Training personnel should focus on tasks with an ATI of 18, which suggests these tasks should be in the entry-level course.

Tasks having the highest TE ratings are listed in Table 13. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. Tasks with the highest TE deal with Performing General Maintenance on Sensor Systems (Duty F), also most are performed by fairly high percentages.

Table 14 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE ratings are also included for each task. Most tasks with high TD ratings deal with performing LANTIRN Maintenance functions and also have a high TE rating.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.

First-Enlistment Personnel

In this study, there are 175 members in their first enlistment (1-48 months TAFMS) representing 27 percent of the survey sample. As displayed in Table 15, approximately 95 percent of their duty time is devoted to technical functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the **SPECIALTY JOBS** section of this report. Of the 11 jobs identified, a vast majority of personnel (41 percent) are involved in LANTIRN Maintenance activities.

Table 16 displays commonly performed tasks for first-enlistment personnel. Majority of tasks displayed involve general maintenance on sensor systems. Equipment utilized by 30 percent or more of first-job or first-enlistment personnel are listed in Table 17.

Specialty Training Standard (STS)

In March 1996, training personnel from Sheppard AFB TX matched tasks in the JI to appropriate sections of the STS. A listing of the STS was then produced showing each STS paragraph and subparagraph, tasks matched, percent criterion group members performing, TE and TD ratings, and ATI. This listing is included in the Training Extract sent to the school for review. Criteria set forth in ATCR 52-22 Attachment 1, were used to review the relevance of each STS paragraph and subparagraph with matched tasks.

General STS elements, such as Security, AF Occupational Safety and Health Program, USAF Graduate Evaluation Program, Environmental Awareness and Compliance, Supervision, and Training, (paragraphs 1 through 7) were not reviewed. Technical areas covering STS paragraphs 8 through 15 were thoroughly reviewed against OSR data. Most were supported in that tasks matched to the STS paragraphs had at least 20 percent of one criterion group performing the matched tasks. Typically, STS areas having matched tasks that have sufficiently

TABLE 13

DAFSC 2A1X1 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIF
F222	Read or interpret schematics	6.73	86	79	6.12
F223	Read or interpret wiring diagrams	6.71	75	76	5.79
F217	Perform soldering	6.63	93	90	4.70
Q605	Input data in CAMS	6.32	71	77	4.01
F218	Perform voltage checks	6.24	71	77	3.99
F220	Read or interpret block diagrams	6.02	79	74	4.84
F211	Perform continuity checks	5.85	79	77	3.93
Q585	Access core automated maintenance system (CAMS) menus and data screens	5.63	93	88	3.27
F212	Perform corrosion control	5.56	86	78	3.87
Q593	Clear or close out completed maintenance discrepancies in CAMS	5.56	86	91	4.13
F182	Align or adjust electronic components on circuit cards	5.39	75	78	4.99
F224	Read or interpret wiring tables	5.39	46	53	5.41
F239	Safety wire equipment	5.37	68	77	3.88
F197	Clean optics or windows	5.37	68	77	3.88
F200	Construct or repair cables or test plugs	5.27	75	78	5.18
F192	Align or adjust video cameras	5.24	36	47	5.80
F233	Remove or replace line replacement units (LRUs)	5.15	93	86	3.65
F231	Remove or replace electronic components on circuit cards	5.10	54	52	5.54
F189	Align or adjust optics assembly fields-of view	5.07	36	43	5.94
F184	Align or adjust gimbals	5.05	61	58	5.94

TD MEAN = 5.00; SD = 1.00
TE MEAN = 2.14; SD = 1.48 (HIGH TE = 3.62)

TABLE 14

DAFSC 2A1X1 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 3E451	DAFSC 3E471	TNG EMP
G311	Troubleshoot or repair LANTIRN intermediate automatic test equipment (LIATE)	8.15	39	42	32	15	4.22
G313	Troubleshoot or repair LANTIRN radio frequency augmentation unit test stands	7.63	29	39	29	14	3.88
N506	Repair ASARS computer interface station (CIS) test stations	7.41	4	1	1	0	.93
N516	Troubleshoot ASARS CIS test stations	7.41	4	1	1	0	.95
H345	Troubleshoot Pave Tack cradle systems	7.34	7	8	8	3	2.00
P578	Tear down or build helicopters	7.30	43	43	30	15	4.12
G212	Troubleshoot or repair LANTIRN power supply test stations (PSTSs)	7.30	43	43	30	15	4.12
N515	Troubleshoot ASARS antenna test stations	7.23	4	1	2	1	.95
H343	Repair Pave Tack ECUs	7.21	4	6	6	2	2.22
G310	Repair NESAs	7.14	36	42	32	14	3.49
I395	Troubleshoot or repair IR receivers	7.05	36	21	17	15	2.56
N520	Troubleshoot ASARS receiver/exciter test stations	7.05	4	1	2	0	.95
N521	Troubleshoot ASARS transmitter test stations	7.05	4	1	2	0	.95
N519	Troubleshoot ASARS PCU test stations	7.05	4	1	2	0	.95

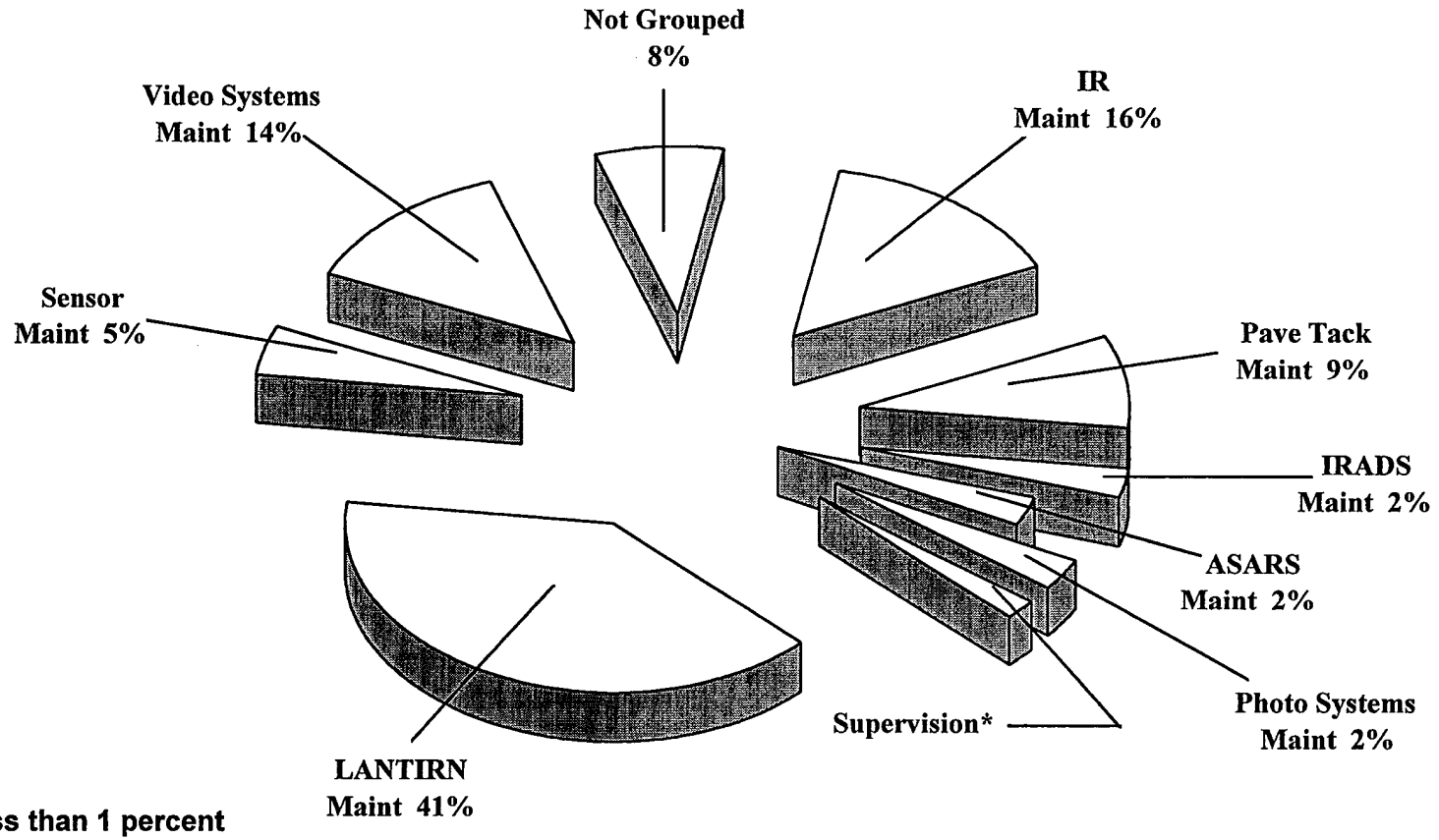
TD MEAN = 5.00 SD = 1.00
TE MEAN =2.14; SD = 1.48 (HIGH TE = 3.62)

TABLE 15

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 2A1X1 PERSONNEL

	DUTIES	PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	2
B	DIRECTING AND IMPLEMENTING	1
C	EVALUATING AND INSPECTING	1
D	TRAINING	1
E	PERFORMING GENERAL ADMINISTRATIVE & SUPPLY ACTIVITIES	6
F	PERFORMING GENERAL MAINTENANCE ON SENSOR SYSTEMS	33
G	MAINTAINING LOW ALTITUDE NAVIGATION AND TARGETING INFRARED FOR NIGHT (LANTIRN) SYSTEMS	22
H	MAINTAINING PAVE TACK AN/AVQ-26 SYSTEMS	3
I	MAINTAINING INFRARED (IR) SYSTEMS	4
J	MAINTAINING LOW LIGHT LEVEL TELEVISION SYSTEMS & NIGHT VISION DEVICES	1
K	MAINTAINING VIDEO RECORDING & COCKPIT TELEVISION SYSTEMS	8
L	MAINTAINING PAVE PENNY AN/AAS-35 SYSTEMS	2
M	MAINTAINING INFRARED ACQUISITION DESIGNATION SYSTEMS	1
N	MAINTAINING INFRARED ADVANCED SYNTHETIC APERATURE RADAR SYSTEMS	1
O	MAINTAINING CAMERA SYSTEMS	1
P	PERFORMING CROSS UTILIZATION TRAINING (CUT) TASKS	1
Q	PERFORMING CORE AUTOMATED MAINTENANCE SYSTEMS (CAMS) ACTIVITIES	12

AFSC 2A1X1
FIRST-ENLISTMENT JOBS



* Less than 1 percent

FIGURE 2

TABLE 16

MOST COMMONLY PERFORMED TASKS FOR FIRST-ENLISTMENT 2A1X1 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=175)
Q593	Clear or close out completed maintenance discrepancies in CAMS	91
F217	Perform soldering	90
Q585	Access core automated maintenance system (CAMS) menus and data screens	88
F197	Clean optics and windows	87
F233	Remove or replace line of replacement units (LRUs)	86
F226	Remove or replace circuit card assemblies	82
F222	Read or interpret schematics	79
F225	Remove or replace cable assemblies	79
F182	Align or adjust electronic components on circuit cards	78
Q605	Input data in CAMS	78
F212	Perform corrosion control	78
F200	Construct or repair cables or test plugs	78
F218	Perform voltage checks	77
F211	Perform continuity checks	77
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	76
F223	Read or interpret wiring diagrams	76
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	74
F220	Read or interpret block diagrams	74
F208	Pack or unpack sensor system equipment	74
F207	Operate aerospace ground equipment (AGE)	70
F242	Troubleshoot support equipment	68
F213	Perform preventive maintenance inspections (PMIs)	67
Q596	Create equipment maintenance discrepancies in CAMS	67
Q591	Change CAMS workcenter event narratives	64
F205	Lubricate mechanical components	63
E137	Inventory equipment, tools, and supplies	62
F236	Remove or replace seals	61
F230	Remove or replace desiccant	61
F219	Pressurize sensor systems	60
K436	Clean and demagnetize video recording systems	58
K439	Operationally check AVTRs	58
K433	Bench check AVTRs	58
F181	Align or adjust gimbals	58

TABLE 17

EQUIPMENT TOOLS AND SUPPORT EQUIPMENT USED BY MORE THAN 30 PERCENT OF FIRST-JOB OR FIRST-ENLISTMENT AFSC 2A1X1 PERSONNEL

	2A1X1 1ST JOB (N=24)	2A1X1 1ST ENL (N=175)
SUPPORT EQUIPMENT		
Collimator, shop	46	41
Coolant Servicing Unit (CSU)	39	42
Demagnetizer	61	65
Fluid Conditioning Unit (FCU)	39	41
Frequency Converter, 400 Hz	46	51
Ground Power Unit	54	37
Hoist	54	50
Lightalls	46	37
Portable Data Tester (PDT)	25	31
Soldering Station	75	78
Torque Wrench	79	79
TEST EQUIPMENT		
Attenuator	21	30
Boresighting Tools	46	48
Breakout Box	29	45
Circuit Card Extender	61	55
Dial Gauge	18	35
Environmental Control Unit (ECU) Servicing Unit	39	49
Freon Recycling Unit	14	34
8 Frequency Converter	43	45
Frequency Counter	21	41
Leak Detector	32	33
Logic Analyzer	32	34
Micrometer	46	42
Multimeter	89	90
Oscilloscope	64	78
Oscilloscope, Digital	68	65
Pulse/Function Generator	43	46
Signal Generator, Audio	25	49
Spectrum Analyzer	29	34
Tension Gauge	32	45
Video Monitor	57	68
Voltmeter	64	65

high TE and TD ratings, and are performed by at least 20 percent of personnel in appropriate experience or skill-level groups (such as first-enlistment (1-48 months TAFMS) and 5-and 7-skill level groups), should be retained in the STS. On the other hand, STS areas having tasks with less than 20 percent performing across all of these groups should be considered for deletion. Using this standard approach, 71 entries in the STS were not supported by OSR data. Examples of these entries are listed in Table 18. A complete listing of the STS paragraphs, with OSR data displayed for each of these criterion groups, can be found in the TRAINING EXTRACT report that accompanies this OSR. Training personnel and SMEs should carefully review these areas to determine if inclusion in future revisions to the STS is warranted.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. Only 5 technical tasks performed by more than 20 percent of criterion group members were not matched to the STS. The functional community and training personnel need to review these technical tasks for inclusion in the STS. They involve performing general maintenance on sensor systems, CAMS activities, and LANTIRN maintenance (see Table 19).

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors that may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several comparisons: (1) among TAFMS groups of the Avionic Sensors Maintenance career ladder and a comparative sample of personnel from other Mission Equipment Maintenance career ladders surveyed in 1994 (AFSCs 2A5X2, 2A6X4, 2A7X2, 2A7X4, 2E3X1, 2F0X1, and 2W1X1); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the **SPECIALTY JOBS** section of the report.

Table 20 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Logistics AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 2A1X1 personnel compares with similar Air Force specialties. Overall, satisfaction for all three TAFMS groups in AFSC 2A1X1 is fairly high, with no serious satisfaction problems noted except for the Perceived Use of Training and Sense of Accomplishment for all TAFMS groups where data was lower than the comparative sample.

Comparison of job satisfaction indicator responses of the current survey TAFMS groups to TAFMS groups in the AFSC 455X0A and 455XOB 1990 survey (see Table 21) indicates that generally the 1996 responses are higher than the 1990 responses.

TABLE 18

EXAMPLES OF
STS ITEMS NOT SUPPORTED BY OSR DATA
(PERCENT MEMBERS PERFORMING)

STS REFERENCE/TASKS	3-LVL CRSE PROF CODE	TNG EMP	PCT 1ST ENL (N=175)	MBRS 5-SKILL LVL (N=296)	PERF 7-SKILL LVL (N=250)	TSK DIF
11 DIRECT SUPPORT EQUIP FUNDAMENTALS						
11b(3) Verify Functional Integrity						
F215 Perform pulse generator checks	2b	2.44	18	13	13	4.70
14 OFF-EQUIPMENT MAINTENANCE						
14b Pave Tack, AVQ-26						
14b(1) Perform Operational Check	-					
H332 Bench check Pave Tack pods		2.76	9	8	3	6.00
15 ON EQUIPMENT MAINTENANCE						
15a Pave Tack, AVQ-26						
15a(3) Remove and Install Pod	-					
H340 Remove or replace Pave Tack cradles		2.02	10	9	4	4.82
15 ON EQUIPMENT MAINTENANCE						
15e AAQ-18 Infrared System						
15e(*7*) Slave Synchro Alignment	-					
I36 Align AN/AAQ-18 IR system slave synchronizers		2.27	9	8	6	4.67

TABLE 19

TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE 2A1X1 GROUP MEMBERS BUT NOT REFERENCED BY STS (PERCENT MEMBERS PERFORMING)

STS REFERENCE/TASKS		TNG EMP	PCT 1ST ENL (N=175)	MBRS 5-SKILL LVL (N=296)	PERF 7-SKILL LVL (N=250)	TSK DIF
F180	Align or adjust cockpit control panels	3.29	23	35	27	3.98
F207	Operate aerospace ground equipment	4.22	70	71	58	3.80
F241	Tow sensor systems	2.68	27	25	18	2.95
G285	Remove or install targeting set center section assembly SRUs	3.88	41	33	15	5.18
Q619	Verify accuracy of daily input in CAMS	2.61	23	27	49	4.71

TABLE 20

JOB SATISFACTION INDICATORS FOR AFSC 2A1X1 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	AFSC 2A1X1 (N=175)	COMP SAMPLE (N=3099)	AFSC 2A1X1 (N=124)	COMP SAMPLE (N=2781)	AFSC 2A1X1 (N=355)	COMP SAMPLE (N=5702)
EXPRESSED JOB INTEREST:						
INTERESTING	67	69	62	61	74	69
SO-SO	18	18	20	26	16	22
DULL	14	13	18	12	10	9
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	72	68	75	70	81	71
NONE TO VERY LITTLE	28	32	23	29	19	21
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	81	82	71	84	74	79
NONE TO VERY LITTLE	19	11	28	14	26	16
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	61	68	60	68	69	73
NEUTRAL	19	17	11	15	12	11
DISSATISFIED	20	15	27	16	19	15
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	55	65	65	80	79	76
NO OR PROBABLY NO	44	34	31	19	10	6
WILL RETIRE	0	0	0	*	10	18

NOTE: Columns may not add to 100 percent due to rounding or nonresponse
Comparative data are from AFSCs 2A5X2, 2A6X4, 2A7X2, 2A7X4, 2E3X1, 2F0X1, and 2W1X1 surveyed in 1994

TABLE 21

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 2A1X1 TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY (PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS			49-96 MONTHS TAFMS			97+ MONTHS TAFMS		
	1996 2A1X1 N=175	1990 455XOA N=292	1990 455XOB N=679	1996 2A1X1 N=124	1990 455XOA N=76	1990 455XOB N=104	1996 2A1X1 N=355	1990 455XOA N=173	1990 455XOB N=188
EXPRESSED JOB INTEREST:									
INTERESTING	67	61	50	62	63	50	74	75	58
SO-SO	18	17	27	20	22	26	16	14	21
DULL	14	22	15	18	13	24	0	12	21
PERCEIVED USE OF TALENTS:									
FAIRLY WELL TO PERFECT	72	66	70	75	73	66	81	77	65
NONE TO VERY LITTLE	28	33	30	23	26	34	19	23	35
PERCEIVED USE OF TRAINING:									
FAIRLY WELL TO PERFECT	81	66	72	71	66	66	74	70	61
NONE TO VERY LITTLE	19	33	28	28	33	37	26	30	39
SENSE OF ACCOMPLISHMENT FROM JOB:									
SATISFIED	61	57	58	60	63	50	69	63	55
NEUTRAL	19	10	17	11	9	18	12	10	13
DISSATISFIED	20	33	25	27	26	32	19	27	32
REENLISTMENT INTENTIONS:									
YES OR PROBABLY YES	55	53	49	65	74	74	79	76	79
NO OR PROBABLY NO	44	47	51	31	26	26	10	14	10
WILL RETIRE	0	0	0	0	0	0	10	10	12

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 22 presents job satisfaction data for the jobs identified in the career ladder structure for AFSC 2A1X1. Overall, personnel in the ASARS Maintenance job had the lowest job satisfaction.

IMPLICATIONS

As explained in the **INTRODUCTION,** this survey was conducted primarily to provide training personnel with current information on the Avionic Sensors Maintenance career ladder for use in reviewing current training programs and training documents. Overall job progression is normal, and shows a distinct pattern as one moves from the 3-skill level to the 7-skill level. The AFMAN 36-2108 *Specialty Description* broadly describes the jobs and tasks being performed. Job satisfaction is fairly high, and no serious problem areas were noted. Analyses of career ladder documents indicate the STS is supported by survey data.

TABLE 22

JOB SATISFACTION INDICATORS FOR AFSC 2A1X1 JOB GROUPS (PERCENT MEMBERS RESPONDING)

	LANTIRN MAINT (STG102)	SENSOR MAINT (STG069)	VIDEO SYS MAINT (STG074)	IR MAINT (STG066)	PAVE TACK MAINT (STG068)	ASARS MAINT (STG135)
EXPRESSED JOB INTEREST:						
INTERESTING	62	79	68	75	67	45
SO-SO	21	12	23	17	15	18
DULL	17	9	9	8	18	36
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	73	64	83	83	72	64
NONE TO VERY LITTLE	27	36	16	17	28	34
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	78	67	79	85	77	55
NONE TO VERY LITTLE	22	33	21	14	23	45
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	53	64	69	74	54	36
NEUTRAL	17	6	16	11	23	0
DISSATISFIED	30	30	13	15	23	64
OTHER	0	0	2	0	0	0
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	61	73	78	77	59	73
NO OR PROBABLY NO	34	24	16	20	41	27
WILL RETIRE	2	3	3	3	0	0
NO RESPONSE	2	0	3	0	0	0

TABLE 22 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 2A1X1 JOB GROUPS
(PERCENT MEMBERS RESPONDING

	IRADS MAINT (STG159)	PHOTO SYS MAINT (STG096)	SUPV (STG067)	SUPPLY & ADMIN (STG077)	TNG (STG046)
EXPRESSED JOB INTEREST					
INTERESTING	92	62	78	100	100
SO-SO	8	8	18	0	0
DULL	0	30	4	0	0
PERCEIVED USE OF TALENTS					
FAIRLY WELL TO PERFECT	75	70	90	56	80
NONE TO VERY LITTLE	25	30	10	44	20
PERCEIVED USE OF TRAINING					
FAIRLY WELL TO PERFECT	83	62	73	89	90
NONE TO VERY LITTLE	17	38	26	11	10
SENSE OF ACCOMPLISHMENT FROM JOB					
SATISFIED	75	69	81	89	100
NEUTRAL	17	15	4	11	0
DISSATISFIED	8	15	15	11	0
REENLISTMENT INTENTIONS					
YES OR PROBABLY YES	50	69	78	56	80
NO OR PROBABLY NO	42	31	10	0	20
WILL RETIRE	8	0	12	44	0

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

APPENDIX A

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE A1

LANTIRN MAINTENANCE
(STG102, N=172)

TYPICAL TASKS		PERCENT
G286	Remove or install targeting set CEUs	100
G271	Remove or install LANTIRN ECUs	100
G257	Perform functional tests on targeting sets	99
G284	Remove or install nose equipment support assemblies	99
G265	Perform targeting set focus adjustments	99
G289	Remove or install navigation or targeting set computers	99
G260	Perform target acquisition forward looking infrared (FLIR) to deroll alignments	99
G274	Remove or install navigation or targeting set computers	99
G247	Perform functional tests on navigation or targeting set environmental control units (ECUs)	99
G263	Perform targeting set drift and deroll biases	98
G258	Perform navigation or targeting set dead-channel strap alignments	98
G264	Perform targeting set FLIR line of sight (LOS) to pitch axis alignments	98
G305	Service coolanol on LANTIRN ECUs	97
G255	Perform functional tests on targeting set central electronics units CEUs	97
G256	Perform functional tests on targeting set power supplies	97
G301	Repair NESAs	97
F197	Clean optics or windows	97
G311	Troubleshoot or repair LANTIRN intermediate automatic test equipment (LIATE)	96
G254	Perform functional tests on navigation sets	96
G285	Remove or install targeting set center section assembly SRUs	96
G250	Perform functional tests on navigation set power supplies	96
G246	Perform functional tests on navigation or targeting set computers	96
G267	Perform targeting set position biases	95
G266	Perform targeting set gain/balance adjustments	95

TABLE A2

SENSOR MAINTENANCE
(STG069, N=33)

TYPICAL TASKS		PERCENT
F222	Read or interpret schematics	100
F207	Operate aerospace ground equipment (AGE)o	97
F223	Read or interpret wiring diagrams	97
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	94
F233	Remove or replace line replacement units (LRUs)	94
F199	Connect or disconnect power to aircraft	91
F227	Remove or replace cockpit control panels	91
F211	Perform continuity checks	91
F217	Perform soldering	88
F218	Perform voltage checks	85
F197	Clean optics or windows	82
F200	Construct or repair cables or test plugs	82
F208	Pack or unpack sensor system equipment	82
F204	Evaluate videotape for system malfunctions	79
F212	Perform corrosion control	79
F225	Remove or replace cable assemblies	79
F239	Safety wire equipment	76
F201	Debrief aircrews	73
Q585	Access core automated maintenance system (CAMS) menus and data screens	70
F220	Read or interpret block diagrams	70
F226	Remove or replace circuit card assemblies	70
F205	Lubricate mechanical components	70
Q593	Clear or close out completed maintenance discrepancies in CAMS	64
E137	Inventory equipment, tools, or supplies	61
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	61
F231	Remove or replace electronic components on circuit cards	58

TABLE A3

VIDEO SYSTEMS MAINTENANCE
(STG074, N=116)

TYPICAL TASKS		PERCENT
K433	Bench check AVTRs	97
H436	Clean and demagnetize video recording systems	97
F217	Perform soldering	95
F204	Evaluate videotape for system malfunctions	94
K439	Operationally check AVTRs	92
Q593	Clear or close out completed maintenance discrepancies in CAMS	92
F222	Read or interpret schematics	92
F226	Remove or replace circuit card assemblies	91
Q585	Access core automated maintenance system (CAMS) menus and data screens	91
K434	Bench check CVTRs	90
K445	Remove or replace AVTR SRUs	90
F218	Perform voltage checks	89
F211	Perform continuity checks	88
K424	Align or adjust airborne videotape recorder (AVTR) drum speeds	88
K452	Troubleshoot VTRs	87
K430	Align or adjust cockpit television systems (CTVSs)	87
F223	Read or interpret wiring diagrams	87
K451	Troubleshoot CTVSs	87
F182	Align or adjust electronic components on circuit cards	85
K431	Align or adjust CTVS electronics units (EUs)	85
F207	Operate aerospace ground equipment (AGE)	85
F212	Perform corrosion control	85
F225	Remove or replace cable assemblies	85
F200	Construct or repair cables or test plugs	85
K435	Bench check ground videotape recorders (GVTRs)	85
F233	Remove or replace line replacement units (LRUs)	84
K429	Align or adjust capstan speeds	84
K440	Operationally check CTVSs	84
K428	Align or adjust AVTR upper head drums	84

TABLE A4

IR MAINTENANCE
(STG066, N=92)

TYPICAL TASKS		PERCENT
F233	Remove or replace line replacement units (LRUs)	100
F217	Perform soldering	100
F226	Remove or replace circuit card assemblies	98
F222	Read or interpret schematics	98
F197	Clean optics or windows	97
F212	Perform corrosion control	97
I395	Troubleshoot or repair IR receivers	96
F199	Connect or disconnect power to aircraft	96
I389	Remove or replace IR SRUs	95
F201	Debrief aircrews	95
F182	Align or adjust electronic components on circuit cards	94
I383	Perform IR gains or balances	94
Q593	Clear or close out completed maintenance discrepancies in CAMS	92
F218	Perform voltage checks	91
F207	Operate aerospace ground equipment (AGE)	91
F223	Read or interpret wiring diagrams	91
F225	Remove or replace cable assemblies	90
I384	Perform scanner alignments	90
F208	Pack or unpack sensor system equipment	90
Q585	Access core automated maintenance system (CAMS) menus and data screens	88
I368	Bench check and align IR video or camera assemblies	88
I382	Perform IR dewar detector focus alignments	88
F211	Perform continuity checks	88
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	88
I366	Align or adjust IR receivers	87
F205	Lubricate mechanical components	87
I387	Remove or replace IR dewar detector assemblies	87
F220	Read or interpret block diagrams	86
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	86
I386	Perform video auxiliary circuit card alignments	85

TABLE A5

PAVE TACK MAINTENANCE
(STG068, N=39)

TYPICAL TASKS		PERCENT
F197	Clean optics or windows	97
H334	Bench check, repair, or adjust Pave Tack pitch pinion instrument assemblies (PPIAS)	95
H341	Remove or replace Pave Tack SRUs	92
H335	Bench check, repair, or adjust Pave Tack roll instrument assemblies (RIAs)	92
Q593	Clear or close our completed maintenance discrepancies in CAMS	90
Q585	Access core automated maintenance discrepancies in CAMS	90
F223	Read or interpret wiring diagrams	90
H339	Operationally check Pave Tack systems	87
F205	Lubricate mechanical components	87
F212	Perform corrosion control	87
F211	Perform continuity checks	87
F232	Remove or replace electronic components, other than on circuit cards, such as light bulbs, fuses, switches, or circuit breakers	87
F233	Remove or replace line replacement units (LRUs)	85
H358	Upload or download Pave Tack pods	85
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	85
F225	Remove or replace cable assemblies	85
F217	Perform soldering	85
H336	Boresight Pave Tack pods	82
H332	Bench check Pave Tack pods	82
F185	Align or adjust laser assemblies	82
H316	Align or adjust Pave Tack laser transmitters	82
F199	Connect or disconnect power to aircraft	79
F207	Operate aerospace ground equipment (AGE)	79
F222	Read or interpret schematics	79
H315	Align or adjust Pave Tack laser optics	79
F200	Construct or repair cables or test plugs	79
H317	Assemble or disassemble Pave Tack base sections	77
F239	Safety wire equipment	77
F220	Read or interpret block diagrams	77
F230	Remove or replace desiccant	77

TABLE A6

ASARS MAINTENANCE
(STG135, N=11)

TYPICAL TASKS		PERCENT
N503	Remove or replace lower U-2 Q-bay hatches	100
N492	Perform ASARS prelaunch checks	100
N489	Operationally check ASARS	100
F207	Operate aerospace ground equipment (AGE)	100
N499	Remove or replace ASARS noses	100
F219	Pressurize sensor systems	100
Q605	Input data in CAMS	100
N500	Remove or replace ASARS PCU SRUs	100
N487	Bench check or repair ASARS processor control units (PCUs)	100
F212	Perform corrosion control	100
N496	Remove or replace ASARS DCRSs	100
Q593	Clear or close out completed maintenance discrepancies in CAMS	100
N493	Remove or replace airborne radar system (ARS) fiber optics	100
F227	Remove or replace cockpit control panels	100
F218	Perform voltage checks	100
F209	Palletize sensor system equipment	100
F202	Don or doff protective clothing, such as aprons, goggles, or gloves	100
N504	Repair ASARS mission data load verifier (MDLV)	100
N484	Bench check or repair ASARS Digital Cassette Recording Systems (DCRSs)	100
N488	Bench check or repair ASARS transmitters	100
F217	Perform soldering	100
N485	Bench check or repair SARS electronic scan antennas (ESAs)	100
N501	Remove or replace ASARS receiver/exciter SRUs	91
N491	Perform ASARS mission data load verifier (MDLV) operations or performance verification	91
N502	Remove or replace ASARS transmitter SRUs	91
F208	Pack or unpack sensor system equipment	91
F222	Read or interpret schematics	91

TABLE A7

IRADS MAINTENANCE
(STG159, N=12)

TYPICAL TASKS		PERCENT
M466	Assemble or disassemble infrared acquisition designation system (IRADS) turrets	100
M475	Perform IRADS turret minimum performance tests	100
M471	Perform IRADS laser system alignments	100
M469	Perform fault isolation tests on IRADS turrets	100
M474	Perform IRADS turret drive and resolver alignments	100
Q585	Access core automated maintenance system CAMS menus and data screens	100
M479	Perform IRADS VTSC minimum performance tests	100
M478	Perform IRADS VTSC fault isolation tests	100
M482	Remove or replace IRADS VTSC SRUs	100
M477	Perform IRADS video tracker servo control (VTSC) electrical alignments	100
F197	Clean optics or windows	100
F195	Clean bearings	100
F189	Align or adjust optics assembly fields-of view	100
F186	Align or adjust laser control electronics	100
M481	Remove or replace IRADS servo SRUs	92
M472	Perform IRADS mechanical video chain alignments	92
F178	Align laser to infrared (IR) or television (TV) video	92
Q593	Clear or close out completed maintenance discrepancies in CAMS	92
F185	Align or adjust laser assemblies	92
M473	Perform IRADS servo fault isolation tests	92
F208	Pack or unpack sensor equipment	92
F181	Align or adjust collimators	92
F182	Align or adjust electronic components on circuit cards	83
F223	Read or interpret wiring diagrams	83
F218	Perform voltage checks	83
F186	Align or adjust laser control electronics	83

TABLE A8

PHOTO SYSTEMS MAINTENANCE
(STG096, N=13)

TYPICAL TASKS		PERCENT
O534	Purge driftsights	100
O526	Bench check or repair T-35 camera systems	100
O532	Perform T-3t5 camera preflight or postflight checks	100
O530	Perform Iris camera preflight or postflight checks with test and checkout consoles	100
O524	Bench check or repair Iris camera systems	100
O531	Perform Iris camera temperature stabilization	100
O549	Upload or download Iris cameras	100
O548	Upload or down load Iris camera film	100
Q593	Clear or close out completed maintenance discrepancies in CAMS	100
O529	Perform Iris camera preflight or postflight checks with flyaway kits	100
O544	Salvage waste film	100
F217	Perform soldering	100
O528	Perform F-489 camera preflight or postflight checks	100
O523	Bench check or repair F-489 camera systems	100
O552	Upload or download T-35 cameras	92
O552	Upload or download T-35 camera film	92
O542	Remove or replace U-2 Q-bay inserts	92
F207	Operate aerospace ground equipment (AGE)	92
O533	Perform temperature stabilizations on cameras	92
F199	Connect or disconnect power to aircraft	92
O541	Remove or replace U-2 camera system heater blower racks	92
Q585	Access core automated maintenance system (CAMS menus and data screens	92
F205	Lubricate mechanical components	92
O539	Remove or replace Iris camera SRUs	92
O522	bench or repair downsights	92
O540	Remove or replace T-35 camera SRUs	92
O535	Remove or replace driftsight LRUs	92
F223	Read or interpret wiring diagrams	92
O545	Thread Iris cameras	92
O537	Remove or replace driftsight SRUs	92

TABLE A9

SUPERVISION
(STG067, N=68)

TYPICAL TASKS		PERCENT
A8	Determine or establish work priorities	97
A2	Assign projects, maintenance, or repair work	97
C58	Conduct performance feedback sessions	97
A20	Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting	96
C86	Write EPRs	96
C82	Inspect personnel for compliance with military standards	96
C87	Write recommendations for awards or decorations	96
B34	Counsel personnel on personal matters	94
B48	Interpret policies, directives, or procedures for subordinates	90
E164	Review messages	87
A23	Plan or schedule work assignments or priorities	85
C72	Evaluate personnel for compliance with performance standards or technical orders	85
D107	Evaluate progress of trainees	85
C73	Evaluate personnel for promotion, demotion, reclassification, or special awards	85
D109	Maintain training records, charts graphs, or files	85
D106	Evaluate personnel for training needs	84
B52	Supervise Avionic Sensors Maintenance Craftsmen (AFSC 2A151)	82
A17	Establish performance standards for subordinates	82
B33	Conduct supervisory orientations of newly assigned personnel	82
A29	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	81
Q585	Access core automated maintenance system (CAMS) menus and data screens	79
E118	Compile information for records, reports, or logs	79
A19	Establish work schedules	79
A18	Establish work methods or procedures	79
D96	Counsel trainees on training progress	79
B35	Direct development or maintenance of status indicators, such as boards, graphs, or charts	76
C60	Conduct self-inspections	76

TABLE A10

SUPPLY AND ADMINISTRATION
(STG077, N=9)

TYPICAL TASKS		PERCENT
A20	Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting	100
A6	Determine logistics requirements, such as personnel, equipment, space, tools, or supplies	100
E133	Initiate electronic main (E-mail)	89
E164	Review messages	89
E131	Identify and report equipment or supply problems	89
E122	Coordinate supply matters with appropriate agencies	89
E162	Research supply requisition data, such as supply catalogs or master cross-reference listings (MCRLs)	89
A10	Develop equipment justifications or requirements	89
E141	Maintain administrative files	89
E121	Coordinate TDY orders, passports, or visas with appropriate agencies	89
A5	Coordinate communications requirements with appropriate agencies	89
A26	Review drafts of regulations, manuals, or other directives	89
E119	Coordinate local purchases of equipment, tools, or supplies with appropriate agencies	89
E125	Draft messages	78
E128	Draft requests for TDY orders, passports, or visas	78
E118	Compile information for records, reports, or logs	78
C78	Identify problem areas using deficiency or service reports	78
A22	Plan or prepare briefings	78
C65	Evaluate deficiency, service, or status reports	78
E159	Prepare requisitions for equipment, tools, or supplies, other than for local purchase	78
A9	Develop cost-reduction programs	78
B39	Draft recommendations for policy changes in logistics requirements, such as personnel, equipment, tools, or supplies	78

TABLE A11

TRAINING
(STG046, N=10)

TYPICAL TASKS		PERCENT
D93	Conduct resident course classroom training	100
D90	Administer or score tests	100
D95	Conduct or develop training materials or aids	90
D115	Write test questions	90
C72	Evaluate personnel for compliance with performance standards or technical orders	70
D109	Maintain training records, charts, graphs, or files	70
D96	Counsel trainees on training progression	70
D113	Procure training aids, space, or equipment	70
D108	Evaluate e training methods and techniques	60
D105	Evaluate or inspect training materials or aids for operation or suitability	60
F220	Read or interpret block diagrams	60
A20	Participate in general meetings, such as staff meetings, briefings, conferences, and workshops, other than conducting	60
E137	Inventory equipment, tools, or supplies	60
B34	Counsel personnel on personal matters	60
F197	Clean optics or windows	60
F182	Align or adjust electronic components on circuit cards	60
D103	Evaluate effectiveness of training programs	50
D107	Evaluate progress of trainees	50
C82	Inspect personnel for compliance with military standards	50
A7	Determine or establish publication requirements	50
F216	Perform signal adjustments	50
F222	Read or interpret schematics	50
F185	Align or adjust laser assemblies	50
C60	Conduct self-inspections	40
D101	Direct or implement training programs	40